REMARKS

Claims 24-30 remain pending in the application. Reexamination and allowance of the claims are requested.

Applicants hereby submit a Declaration Under 37 CFR § 1.132 (hereinafter "Declaration"). The Declaration is a statement by one knowledgeable in the field of the invention that the peptides of the present invention are efficacious, and that the representations of the invention in the present application enable one skilled in the art to practice the invention disclosed and claimed.

The Examiner has rejected claims 24-30 under 35 U.S.C. § 112, first paragraph, for asserted lack of enabling description. The Examiner has not received the exhibit, referred to in the response of March 4, 2002, demonstrating the effectiveness of the invention. A copy of the exhibit is provided with this response.

The Examiner has asserted that Applicants have not provided working examples showing the use of peptides which induce and strengthen regulatory T cells, which subsequently down regulate pathogenic autoreactive T cells. Applicants have provided herewith a signed Declaration reporting the inhibition of progression of atherosclerotic lesions in mice in comparative tests of peptides according to the present invention, as well as other materials. The data shown in the attachment establish that the inventive peptide pep253-268 was able to inhibit progression of atherosclerotic regions in mice, in contrast to the control protein SOD and control peptide peptB23, which did not exhibit similar inhibitory activity.

The inventive peptide for which results are presented in the Declaration, pep253-268, is a peptide according to the criteria of claim 24. As described in paragraph 4 of the Declaration, it contains 7-30 amino acids having the sequence of a part of the amino acid sequence of a microbial protein having a conserved mammalian stress protein homologue, that part comprising a T cell epitope corresponding to a T cell epitope of the mammalian homologue,

with the part further comprising at least 5 amino acids, which are identical with corresponding amino acids in the same relative position in a T cell epitope of the mammalian stress protein, with the epitope and the aforementioned part containing at least four consecutive amino acids, which are identical to the corresponding mammalian stress protein amino acids, thereby forming said T cell epitope corresponding to a T cell epitope of a mammalian homologue.

Applicants have also provided guidance concerning the exchange of amino acid residues. Claims to methods involving species in which exchanges have been made depend from claim 24 and include its limitations. Only after the homology has been established, and the part of the microbial protein has been subsequently identified, one or more amino acids may be exchanged with similar amino acids. Even then, the particular part should still comprise a T cell epitope corresponding to a T cell epitope of the mammalian homologue. In the Declaration, Applicants have shown how this guidance enables one skilled in the art to practice the invention disclosed and claimed. Exchanged amino acids, as described in the specification and in claim 29, must have a size, charge and polarity in common with the original amino acid. In an exchange of phenylalanine for alanine only the charge remains the same (both species are neutral). Phenylalanine has a phenyl group and therefore is much larger than alanine. In addition, phenylalanine has a phenyl group attached to a $-CH_2-$ moiety. Phenylalanine is therefore a polar species, with the phenyl group supporting a negative polarity. Alanine is a symmetrical species and it does not compare to phenylalanine in terms of polarity. The Examiner asserts that Karin et al. teaches that the substitution of one amino acid for another produces a peptide about which no predictions of binding activity or biological effect can be made. However, Karin et al. contains no teachings concerning the substitution of an amino acid with another amino acid having similar size, charge, and polarity. The present specification contains guidance, as described above, for carrying out substitutions in which the binding activity and biological effect

are likely to be substantially retained. For these reasons, the rejection of claims 24-30 under 35 U.S.C. § 112, first paragraph is believed to have been overcome.

Applicants have provided, in the Declaration and in reference to the specification, responses to all issues raised by the Examiner. In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration of the rejections and allowance of claims 24-30 are respectfully requested.

Respectfully submitted,

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